



Case Study

Introduction to AGL Energy Loy Yang Mine

AGL Energy is one of Australia's leading integrated energy companies and the largest ASX listed owner, operator and developer of renewable energy generation in the country.

Their diverse power generation portfolio includes base, peaking and intermediate generation plants, spread across traditional thermal generation as well as renewable sources including hydro, wind, landfill gas, solar and biomass. AGL Energy also invests in and operates natural gas exploration, development and production tenements, and operates natural gas storage facilities.

The Loy Yang open cut brown coal mine in Victoria's Latrobe Valley, near Traralgon, is owned and operated by AGL Energy. AGL Energy also own and operate the adjacent 2,210-megawatt Loy Yang A Power Station as well as the nearby Loy Yang B Power Station and both operate on the coal mined from the Loy Yang mine.

The Opportunity

The Loy Yang open cut brown coal mining operation uses four electric powered bucket wheel dredgers, 190 metres long and 50 metres high. Each one weighing around 5,000 tonnes and able to excavate 4,000 tonnes of coal an hour or over one tonne of coal a second. The coal is taken from the mine to the power station by 15 kilometres of conveyors that carry the coal at speeds of 5.3 metres a second to an 80,000-tonne capacity bunker. The coal is crushed by rotary crushers that can handle 2,500 tonnes an hour each before it is delivered to the power station.

During each shift the daily directions and targets need to be conveyed to the operations staff indicating the requirements in terms of quantity and quality of the coal required. Information detailing the status and availability of the major equipment is also needed.

At the end of each shift reports are required to indicate if objectives were met, comparing planned tonnage to actual tonnage.

AGL Energy's objectives were to streamline the provision of daily requirements and combine that data with actual achievements to evaluate the shifts production levels.



The Objectives

- Provide detailed instructions to the operators
- Generate the instructions from planned data contained in the OSIsoft PI System®
- Synchronise with planned data at the start of every shift to allow for modifications
- Compare planned and actual data to facilitate the review of the shift targets
- Provide standard handover functionality as a framework to contain these requirements

The Benefits

- Reduction in the paper trail providing the details to the operations group
- Clear and concise objectives shared on with the entire mine site via static and mobile devices
- Improved decision-making from having the right information readily available
- Formalised process



How j5 International is Providing the Solution

AGL Energy utilises the j5 Operations Logbook, j5 Shift Handover, j5 Work Instructions, j5 Event Manager and j5 Event Frames throughout their operations along with j5 Reporting and j5 IndustraForm® functionality to meet their extensive requirements.

j5 works with the OSIsoft PI System® and current and future planning data is provided to j5 to build the requirement details and the resulting shift production levels. This combined data provides four reports for each shift:

- **Shift Production Requirements:**

Provides the tonnage required and the rate per hour, major events on the dredgers, digging priority instructions, quality of the coal and the bunkering strategy

- **Coal Draw Directive**

Instructions to the dredger operators on the drawing positions for the shift, this data is also expanded on in the j5 Operations Logbook

- **Shift Leaders Report**

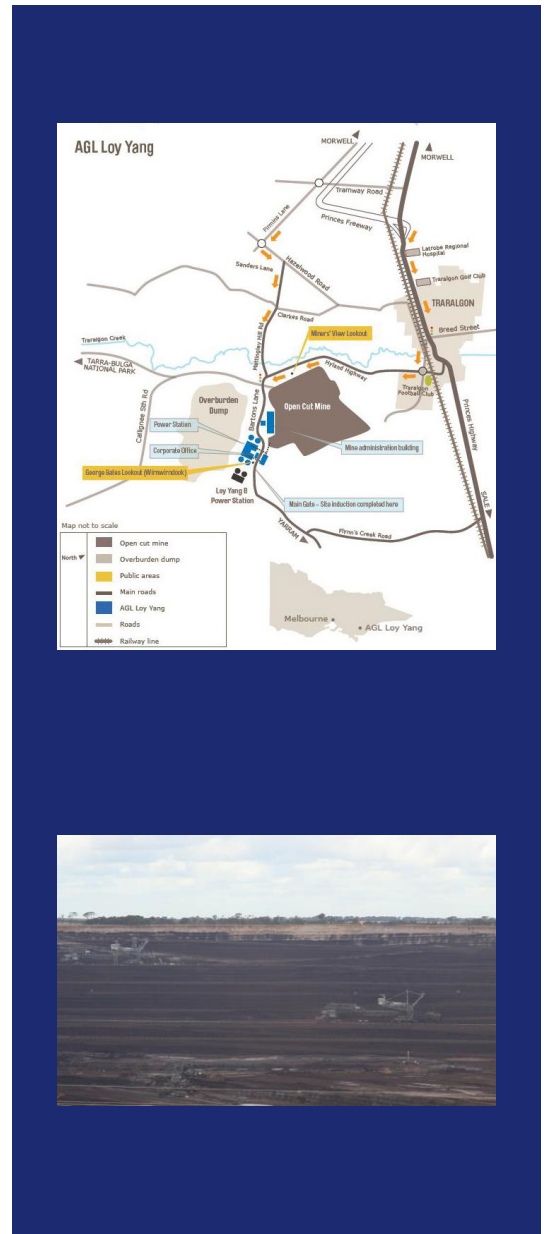
Generated at the end of each shift, compares planned and actual results, includes bunker levels, stocks at the start and end of shift, output and digging rates of individual dredgers and major events from the PI System Event Frames

- **Shift Handover Report**

Generated at the end of the shift, a standard j5 Shift Handover report containing additional information from the including hazards, safety and planning issues

Benefits of j5

- j5 is saving time by producing concise requirements and directions at the start of each shift
- j5 is making information available to the entire operations crew allowing for greater communication and direction within the group
- j5 is utilising and exposing the planning data within the PI System directly to a larger audience which improves the operations workflow
- The provision of this data at the start and end of each shift enables a group approach to Shift Handover and Daily Production Meetings



➔ **Contact j5 International for more information:**

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